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Bibliography

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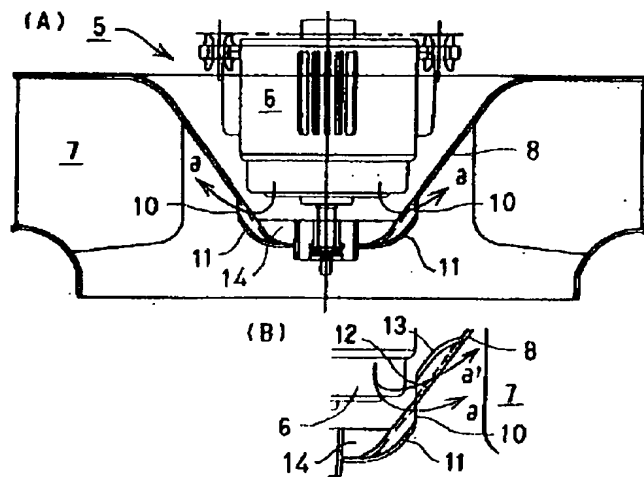
Epitome

(57) [Abstract]

[Technical problem] The head-lining flush type air conditioner which enabled it to lead smoothly the air which carried out the temperature rise by generation of heat of a fan motor to a heat exchanger through a turbo fan from exhaust heat opening, without making it collide with intake air is offered.

[Means for Solution] The bulge section 11 of a cross-section abbreviation concave which bulges spirally caudad towards the top face of a turbo fan 7 is formed, the exhaust heat opening 10 is formed between the tip of this bulge section, and the top face 8 of said turbo fan, and it was made to lead the air which carried out the temperature rise by generation of heat of a fan motor 6 to a heat exchanger through said turbo fan from said exhaust heat opening.

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## CLAIMS

## [Claim(s)]

[Claim 1] The blower which consists of the fan motor and turbo fan which equipped with the makeup panel with [ center / inlet port ] an outlet to the perimeter of owner *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. base opening of the case body laid underground in head lining, were made to face [ this outlet ] the air duct which connects these inlet port and an outlet, and have been arranged up and down Heat exchanger It is the head-lining flush type air conditioner equipped with the above, and the bulge section of a cross-section abbreviation concave which bulges spirally caudad towards the top face of said turbo fan is formed, exhaust heat opening is formed between the tip of this bulge section, and the top face of said turbo fan, and it is characterized by making it lead the air which carried out the temperature rise by generation of heat of said fan motor to said heat exchanger through said turbo fan from said exhaust heat opening.

[Claim 2] The head-lining flush type air conditioner according to claim 1 characterized by preparing two or more said bulge sections and said exhaust heat openings.

[Claim 3] Said bulge section is a head-lining flush type air conditioner according to claim 1 or 2 characterized by forming in cross-section abbreviation which made the posterior part incline gently-sloping to the hand-of-cut anterior part of said turbo fan in the shape of a character.

[Claim 4] Said bulge section is claim 1 characterized by extending and forming said exhaust heat opening side used as the tip, and a head-lining flush type air conditioner according to claim 2 or 3.

[Claim 5] The tip of said bulge section is a head-lining flush type air conditioner according to claim 1 or 2 characterized by making the hand-of-cut tip side of said turbo fan incline in the shape of a taper to a periphery configuration.

[Claim 6] Claim 1 characterized by forming auxiliary exhaust heat opening which follows said exhaust heat opening between the top faces of this auxiliary bulge section and said turbo fan while following said bulge section and forming in the top face of said turbo fan the auxiliary bulge section of a cross-section reverse abbreviation concave which bulges towards the upper part, claim 2, claim 3, a head-lining flush type air conditioner according to claim 4 or 5.

[Claim 7] Said auxiliary bulge section is a head-lining flush type air conditioner according to claim 6 characterized by forming in cross-section abbreviation which made anterior part incline gently-sloping to the method Kogo section of rotation of said turbo fan in the shape of a character.

[Claim 8] The head-lining flush type air conditioner according to claim 1 or 6 characterized by forming two or more ribs made to face the top-face core of said turbo fan said exhaust heat opening and said auxiliary exhaust heat opening.

[Claim 9] The head-lining flush type air conditioner according to claim 1 or 8 characterized by forming said rib in a radial.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the structure which enabled it to lead smoothly the air which carried out the temperature rise to the detail by generation of heat of a fan motor more with respect to the head-lining flush type air conditioner to a heat exchanger through a turbo fan from exhaust heat opening, without making it collide with intake air.

[0002]

[Description of the Prior Art] As drawing 1 (A) shows drawing 1, the conventional head-lining flush type air conditioner Base opening of the case body 1 laid underground in head lining is equipped with the makeup panel 2 with [ center / inlet port 3 ] an outlet 4 to the perimeter of owner *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. The blower 5 which consists of the fan motor 6 and turbo fan 7 which were made to face [ this outlet 4 ] the air duct which connects these inlet port 3 and an outlet 4, and have been arranged up and down, It was the configuration of having formed a heat exchanger 9 and coming to prepare [ the exhaust heat hole A of a \*\*\*\*\* sake ] the air which carried out the temperature rise to the top face 8 of said turbo fan 7 by generation of heat of said fan motor in said heat exchanger 9.

[0003] However, the airstream a which carried out the temperature rise and passed said exhaust heat hole A had the problem that a turbulent flow will occur in this part and ventilation effectiveness will fall in order to collide with the intake airstream b absorbed from said inlet port 3. Then, although the cure with which it is made the airstream a which passed said exhaust heat hole A by forming the guide member B which counters said exhaust heat hole A, and the aforementioned intake airstream b not collide was considered as drawing 5 (B) showed, it had the problem that where of structure will become complicated and will become disadvantageous in cost, by forming said guide member B which consists of another member.

[0004]

[Problem(s) to be Solved by the Invention] It aims at offering the head-lining flush type air conditioner which enabled it to lead smoothly the air which carried out the temperature rise by generation of heat of a fan motor in view of the above-mentioned trouble to a heat exchanger through a turbo fan from exhaust heat opening, without making it collide with intake air in this invention.

[0005]

[Means for Solving the Problem] In order that this invention may solve the above-mentioned technical problem, to base opening of the case body laid underground in head lining The blower which consists of the fan motor and turbo fan which equipped with the makeup panel with [ center / inlet port ] an outlet to the perimeter of owner *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne., were made to face [ this outlet ] the air duct which connects these inlet port and an outlet, and have been arranged up and down, In the thing which comes to prepare a heat exchanger on the top face of said turbo fan Form the bulge section of a cross-section abbreviation concave which turns caudad and bulges spirally, and exhaust heat opening is formed between the tip of this bulge section, and the top face of said turbo fan. It has the composition of having made it lead the air which carried out the temperature rise by generation of heat of said fan motor to said heat exchanger through said turbo fan from said exhaust heat opening.

[0006] Moreover, it has the composition of having prepared two or more said bulge sections and said exhaust heat openings.

[0007] Moreover, said bulge section has composition formed in cross-section abbreviation which made the posterior part incline gently-sloping to the hand-of-cut anterior part of said turbo fan in the shape of a character.

[0008] Moreover, said bulge section has composition which extended and formed said exhaust heat opening side used as the tip.

[0009] Moreover, the tip of said bulge section has the composition of having made the hand-of-cut tip side of said turbo fan inclining in the shape of a taper to a periphery configuration.

[0010] Moreover, while following said bulge section and forming in the top face of said turbo fan the auxiliary bulge section of a cross-section reverse abbreviation concave which bulges towards the upper part, it has the composition in which auxiliary exhaust heat opening which follows said exhaust heat opening was formed between the top faces of this auxiliary bulge section and said turbo fan.

[0011] Moreover, said auxiliary bulge section has composition formed in cross-section abbreviation which made anterior part incline gently-sloping to the method Kogo section of rotation of said turbo fan in the shape of a character.

[0012] Moreover, it has the composition in which two or more ribs made to face the top-face core of said turbo fan said exhaust heat opening and said auxiliary exhaust heat opening were formed.

[0013] Furthermore, it has composition which formed said rib in the radial.

[0014]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained as an example based on an accompanying drawing. As drawing 1, drawing 2 (A) and drawing 2 (B) and drawing 3, and drawing 4 show Base opening of this case body 1 is equipped with the case bodies 1 and 2 with which 1 is laid underground in head lining. The blower which consists of the fan motor 6 and turbo fan 7 which a makeup panel with [ center / inlet port 3 ] an outlet 4 to the perimeter of owner *Perilla frutescens* (L.) Britton var. *crispa*

(Thunb.) Decne. and 5 were prepared in the air duct which connects these inlet port 3 and an outlet 4, made face said outlet 4, and have been arranged up and down, and 9 are heat exchanger. [0015] The bulge section 11 of a cross-section abbreviation concave which bulges spirally caudad towards the top face 8 of said turbo fan 7 is formed. The exhaust heat opening 10 is formed between the tip of this bulge section 11, and the top face of said turbo fan 7. It has the composition of having made it lead the air which carried out the temperature rise by generation of heat of said fan motor 6 from said exhaust heat opening 10 to said heat exchanger 9 through said turbo fan 7. By this While it becomes unnecessary to form said guide member B which consists of another member like the conventional technique explained above As it does not collide with the intake airstream by which the airstream a which carried out the temperature rise by generation of heat of said fan motor 6 was absorbed from said inlet port 3, it becomes the structure it was made not to say that ventilation effectiveness will fall.

[0016] Moreover, it has the composition of turning to said heat exchanger 9 the airstream a which carried out the temperature rise by generation of heat of said fan motor 6, and having enabled it to draw it efficiently from said exhaust heat opening 10, by having formed two or more said bulge sections 11 and said exhaust heat openings 10.

[0017] Moreover, said bulge section 11 is posterior part 11b to the hand-of-cut anterior part of said turbo fan 7. By having formed in cross-section abbreviation made to incline gently-sloping in the shape of a character, it has composition which is made to pass said bulge section 11 efficiently, and enabled it to send out smoothly the airstream a which carried out the temperature rise by generation of heat of said fan motor 6 to said exhaust heat opening 10.

[0018] Moreover, said bulge section 11 has the composition of having enabled it to pass more smoothly the airstream a which carried out the temperature rise by generation of heat of said fan motor 6, by having extended and formed said exhaust heat opening 10 side used as the tip.

[0019] Moreover, tip 11a of said bulge section 11 Like the include angle theta shown by drawing 4, by having made the hand-of-cut tip side of said turbo fan 7 incline in the shape of a taper to a periphery configuration, distribution of said airstream a in said exhaust heat opening 10 can be made into homogeneity, and it has composition which enabled it to improve the effectiveness of exhaust heat.

[0020] Moreover, as drawing 2 (B) and drawing 4 show, while following said bulge section 11 and forming in the top face of said turbo fan 7 the auxiliary bulge section 13 of a cross-section reverse abbreviation concave which bulges towards the upper part It has the composition in which the auxiliary exhaust heat opening 12 which follows said exhaust heat opening 10 was formed between the top faces of this auxiliary bulge section 13 and said turbo fan 7. By this The airstream a which carried out the temperature rise by generation of heat of said fan motor 6 can be turned to said heat exchanger 9 from said exhaust heat opening 10 and said auxiliary exhaust heat opening 12, and it can be made to pass still more smoothly now, and becomes the structure which enabled it to improve the effectiveness of exhaust heat further.

[0021] Moreover, said auxiliary bulge section 13 is anterior part 13a to the method Kogo section of rotation of said turbo fan 7. By having formed in cross-section abbreviation made to incline gently-sloping in the shape of a character, it has the composition of having enabled it to draw smoothly the airstream a which carried out the temperature rise by generation of heat of said fan motor 6 towards said heat exchanger 9 after being sent out from said bulge section 11.

[0022] Moreover, by having formed two or more ribs 14 made to face the top-face core of said turbo fan 7 said exhaust heat opening 10 and said auxiliary exhaust heat opening 12, with rotation of this turbo fan 7, said airstream a which carried out the temperature rise can be compulsorily sent out now from said exhaust heat opening 10 and said auxiliary exhaust heat opening 12, and it has composition it enabled it to draw still more smoothly towards said heat exchanger 9 with said rib 14.

[0023] Furthermore, it has composition which could be made to carry out forcible sending out of said airstream a which carried out the temperature rise powerfully from said exhaust heat opening 10 and said auxiliary exhaust heat opening 12 by having formed said rib 14 in the radial.

[0024] By the above configuration, as drawing 1, drawing 2 (A) and drawing 2 (B) and drawing 3, and drawing 4 show The bulge section 11 of a cross-section abbreviation concave which bulges spirally caudad towards the top face 8 of said turbo fan 7 is formed. Since it was made to lead the air which formed the exhaust heat opening 10 between the tip of this bulge section 11, and the top face of said turbo fan 7, and carried out the temperature rise by generation of heat of said fan motor 6 from said exhaust heat opening 10 to said heat exchanger 9 through said turbo fan 7 Or while continuing and forming in said bulge section 11 the auxiliary bulge section 13 of a cross-section reverse abbreviation concave which bulges towards the upper part Since the auxiliary exhaust heat opening 12 which follows said exhaust heat opening 10 was formed between the top faces of this auxiliary bulge section 13 and said turbo fan 7 While it becomes unnecessary to form said guide

member B which consists of another member like the conventional technique explained above. As it does not collide with the intake airstream by which the airstream which carried out the temperature rise by generation of heat of said fan motor 6 was absorbed from said inlet port 3, it becomes the head-lining flush type air conditioner. It was made not to say that ventilation effectiveness will fall.

[0025]

[Effect of the Invention] According to this invention, it becomes the head-lining flush type air conditioner which enabled it to lead smoothly the air which carried out the temperature rise by generation of heat of a fan motor to a heat exchanger through a turbo fan from exhaust heat opening, without making it collide with intake air as mentioned above.

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**DESCRIPTION OF DRAWINGS**

[Brief Description of the Drawings]

[Drawing 1] It is the sectional view of the head-lining flush type air conditioner by this invention and the conventional example.

[Drawing 2] (A) is the important section sectional view showing an example with the explanatory view of the head-lining flush type air conditioner by this invention, and (B) is the important section sectional view showing other examples.

[Drawing 3] It is a plan corresponding to drawing 2 (A) of the turbo fan of the head-lining flush type air conditioner by this invention.

[Drawing 4] It is an important section plan corresponding to drawing 2 (B) of the turbo fan of the head-lining flush type air conditioner by this invention.

[Drawing 5] With the important section sectional view of the head-lining flush type air conditioner by the conventional example, (A) shows an example and (B) shows other examples.

[Description of Notations]

- 1 Case Body
- 2 Makeup Panel
- 3 Inlet Port
- 4 Outlet
- 5 Blower
- 6 Fan Motor
- 7 Turbo Fan
- 8 Top Face of Turbo Fan
- 9 Heat Exchanger
- 10 Exhaust Heat Opening
- 11 Bulge Section
- 11a The tip of the bulge section
- 11b The posterior part of the bulge section
- 12 Auxiliary Exhaust Heat Opening
- 13 Auxiliary Bulge Section
- 13a Anterior part of the auxiliary bulge section
- 14 Rib

[Translation done.]

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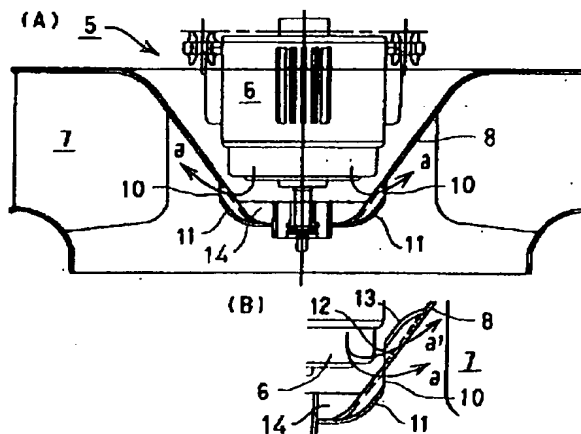
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(54) 【発明の名称】 天井埋込型空調機

(57) 【要約】

【課題】 ファンモータの発熱により温度上昇した空気を、吸込空気と衝突させることなく、排熱口からターボファンを経て熱交換器へ円滑に導けるようにした天井埋込型空調機を提供する。

【解決手段】 ターボファン7の上面に、下方に向けて渦巻状に膨出する断面略凹状の膨出部11を形成し、同膨出部の先端および前記ターボファンの上面8の間に排熱口10を形成し、ファンモータ6の発熱により温度上昇した空気を、前記排熱口から前記ターボファンを経て熱交換器へ導くようにした。





【特許請求の範囲】

【請求項1】 天井内に埋設されるケース本体の底面開口部に、中央に吸込口を有しその周囲に吹出口を有した化粧パネルを装着し、これら吸込口と吹出口とを結ぶ空気通路に、同吹出口を臨ませて上下に配置されたファンモータおよびターボファンからなる送風機と、熱交換器とを設けてなるものにおいて、

前記ターボファンの上面に、下方に向けて渦巻状に膨出する断面略凹状の膨出部を形成し、同膨出部の先端および前記ターボファンの上面の間に排熱口を形成し、前記ファンモータの発熱により温度上昇した空気を、前記排熱口から前記ターボファンを経て前記熱交換器へ導くようにしたことを特徴とする天井埋込型空気調和機。

【請求項2】 前記膨出部および前記排熱口を、複数設けたことを特徴とする請求項1に記載の天井埋込型空気調和機。

【請求項3】 前記膨出部は、前記ターボファンの回転方向前部に対し後部をなだらかに傾斜させた断面略へ字状に形成したことを特徴とする請求項1または請求項2に記載の天井埋込型空気調和機。

【請求項4】 前記膨出部は、その先端となる前記排熱口側を拡開して形成したことを特徴とする請求項1、請求項2または請求項3に記載の天井埋込型空気調和機。

【請求項5】 前記膨出部の先端は、前記ターボファンの回転方向先端側を円周形状に対し先細状に傾斜させたことを特徴とする請求項1または請求項2に記載の天井埋込型空気調和機。

【請求項6】 前記ターボファンの上面に、上方に向けて膨出する断面逆略凹状の補助膨出部を前記膨出部に連続して形成するとともに、同補助膨出部および前記ターボファンの上面の間に、前記排熱口に連続する補助排熱口を形成したことを特徴とする請求項1、請求項2、請求項3、請求項4または請求項5に記載の天井埋込型空気調和機。

【請求項7】 前記補助膨出部は、前記ターボファンの回転方向後部に対し前部をなだらかに傾斜させた断面略へ字状に形成したことを特徴とする請求項6に記載の天井埋込型空気調和機。

【請求項8】 前記ターボファンの上面中心部に、前記排熱口および前記補助排熱口を臨ませた複数のリブを形成したことを特徴とする請求項1または請求項6に記載の天井埋込型空気調和機。

【請求項9】 前記リブを、放射状に形成したことを特徴とする請求項1または請求項8に記載の天井埋込型空気調和機。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、天井埋込型空気調和機に係わり、より詳細には、ファンモータの発熱により温度上昇した空気を、吸込空気と衝突させることな

く、排熱口からターボファンを経て熱交換器へ円滑に導けるようにした構造に関する。

【0002】

【従来の技術】従来の天井埋込型空気調和機は、例えば図1と、図5(A)とで示すように、天井内に埋設されるケース本体1の底面開口部に、中央に吸込口3を有しその周囲に吹出口4を有した化粧パネル2を装着し、これら吸込口3と吹出口4とを結ぶ空気通路に、同吹出口4を臨ませて上下に配置されたファンモータ6およびターボファン7からなる送風機5と、熱交換器9とを設け、前記ターボファン7の上面8に前記ファンモータの発熱により温度上昇した空気を前記熱交換器9へ導びくための排熱孔Aを設けてなる構成であった。

【0003】しかしながら、温度上昇して前記排熱孔Aを通過した空気流aは、前記吸込口3から吸い込まれた吸込空気流bと衝突してしまうため、該箇所では乱流が発生して送風効率が低下してしまうという問題を有していた。そこで、図5(B)で示すように、前記排熱孔Aに対向するガイド部材Bを設けることにより、前記排熱孔Aを通過した空気流aおよび前記吸込空気流bが衝突しないようにする対策が考えられていたが、別部材からなる前記ガイド部材Bを設けることによって、構造が複雑になりコスト的に不利になってしまうという問題を有していた。

【0004】

【発明が解決しようとする課題】本発明においては、上記の問題点に鑑み、ファンモータの発熱により温度上昇した空気を、吸込空気と衝突させることなく、排熱口からターボファンを経て熱交換器へ円滑に導けるようにした天井埋込型空気調和機を提供することを目的とする。

【0005】

【課題を解決するための手段】本発明は、上記課題を解決するため、天井内に埋設されるケース本体の底面開口部に、中央に吸込口を有しその周囲に吹出口を有した化粧パネルを装着し、これら吸込口と吹出口とを結ぶ空気通路に、同吹出口を臨ませて上下に配置されたファンモータおよびターボファンからなる送風機と、熱交換器とを設けてなるものにおいて、前記ターボファンの上面に、下方に向けて渦巻状に膨出する断面略凹状の膨出部を形成し、同膨出部の先端および前記ターボファンの上面の間に排熱口を形成し、前記ファンモータの発熱により温度上昇した空気を、前記排熱口から前記ターボファンを経て前記熱交換器へ導くようにした構成となっている。

【0006】また、前記膨出部および前記排熱口を、複数設けた構成となっている。

【0007】また、前記膨出部は、前記ターボファンの回転方向前部に対し後部をなだらかに傾斜させた断面略へ字状に形成した構成となっている。

【0008】また、前記膨出部は、その先端となる前記

排熱口側を拡開して形成した構成となっている。

【0009】また、前記膨出部の先端は、前記ターボファンの回転方向先端側を円周形状に対し先細状に傾斜させた構成となっている。

【0010】また、前記ターボファンの上面に、上方に向けて膨出する断面逆略凹状の補助膨出部を前記膨出部に連続して形成するとともに、同補助膨出部および前記ターボファンの上面の間に、前記排熱口に連続する補助排熱口を形成した構成となっている。

【0011】また、前記補助膨出部は、前記ターボファンの回転方向後部に対し前部をなだらかに傾斜させた断面略へ字状に形成した構成となっている。

【0012】また、前記ターボファンの上面中心部に、前記排熱口および前記補助排熱口を臨ませた複数のリブを形成した構成となっている。

【0013】更に、前記リブを、放射状に形成した構成となっている。

【0014】

【発明の実施の形態】以下、本発明の実施の形態を、添付図面に基づいた実施例として説明する。図1と、図2(A)および図2(B)と、図3と、図4とで示すように、1は天井内に埋設されるケース本体1、2は同ケース本体1の底面開口部に装着され、中央に吸込口3を有しその周囲に吹出口4を有した化粧パネル、5はこれら吸込口3と吹出口4とを結ぶ空気通路に設けられ、前記吹出口4を臨ませて上下に配置されたファンモータ6およびターボファン7からなる送風機、9は熱交換器である。

【0015】前記ターボファン7の上面8に、下方に向けて渦巻状に膨出する断面略凹状の膨出部11を形成し、同膨出部11の先端および前記ターボファン7の上面の間に排熱口10を形成し、前記ファンモータ6の発熱により温度上昇した空気を、前記排熱口10から前記ターボファン7を経て前記熱交換器9へ導くようにした構成となっており、これによって、上記に説明した従来技術のように、別部材からなる前記ガイド部材Bを設ける必要がなくなるとともに、前記ファンモータ6の発熱により温度上昇した空気流aが前記吸込口3から吸い込まれた吸込空気流と衝突しないようにして、送風効率が低下してしまうということがないようにした構造となる。

【0016】また、前記膨出部11および前記排熱口10を複数設けたことにより、前記ファンモータ6の発熱により温度上昇した空気流aを、前記排熱口10から前記熱交換器9に向けて効率よく導けるようにした構成となっている。

【0017】また、前記膨出部11は、前記ターボファン7の回転方向前部に対し後部11bをなだらかに傾斜させた断面略へ字状に形成したことにより、前記ファンモータ6の発熱により温度上昇した空気流aを、前記膨出部11を効率よく通過させて前記排熱口10へ円滑に送出でき

るようにした構成となっている。

【0018】また、前記膨出部11は、その先端となる前記排熱口10側を拡開して形成したことにより、前記ファンモータ6の発熱により温度上昇した空気流aを、より円滑に通過させることができるようにした構成となっている。

【0019】また、前記膨出部11の先端11aは、図4で示す角度θのように、前記ターボファン7の回転方向先端側を円周形状に対し先細状に傾斜させたことにより、前記排熱口10における前記空気流aの分布を均一にすることができ、排熱の効率を向上できるようにした構成となっている。

【0020】また、前記ターボファン7の上面に、図2(B)と、図4とで示すように、上方に向けて膨出する断面逆略凹状の補助膨出部13を前記膨出部11に連続して形成するとともに、同補助膨出部13および前記ターボファン7の上面の間に、前記排熱口10に連続する補助排熱口12を形成した構成となっており、これによって、前記ファンモータ6の発熱により温度上昇した空気流aを、前記排熱口10および前記補助排熱口12から前記熱交換器9に向けて更に円滑に通過させることができるようになり、排熱の効率を更に向上できるようにした構造となる。

【0021】また、前記補助膨出部13は、前記ターボファン7の回転方向後部に対し前部13aをなだらかに傾斜させた断面略へ字状に形成したことにより、前記ファンモータ6の発熱により温度上昇した空気流aを、前記膨出部11から送出されたのちに前記熱交換器9に向けて円滑に導けるようにした構成となっている。

【0022】また、前記ターボファン7の上面中心部に、前記排熱口10および前記補助排熱口12を臨ませた複数のリブ14を形成したことにより、同ターボファン7の回転に伴い、前記リブ14によって、前記温度上昇した空気流aを前記排熱口10および前記補助排熱口12から強制的に送出できるようになり、前記熱交換器9に向けて更に円滑に導けるようにした構成となっている。

【0023】更に、前記リブ14を放射状に形成したことにより、前記温度上昇した空気流aを前記排熱口10および前記補助排熱口12から強力に強制送出できるようにした構成となっている。

【0024】以上の構成により、図1と、図2(A)および図2(B)と、図3と、図4とで示すように、前記ターボファン7の上面8に、下方に向けて渦巻状に膨出する断面略凹状の膨出部11を形成し、同膨出部11の先端および前記ターボファン7の上面の間に排熱口10を形成し、前記ファンモータ6の発熱により温度上昇した空気を、前記排熱口10から前記ターボファン7を経て前記熱交換器9へ導くようにしたので、もしくは、上方に向けて膨出する断面逆略凹状の補助膨出部13を前記膨出部11に連続して形成するとともに、同補助膨出部13および前

記ターボファン7の上面の間に、前記排熱口10に連続する補助排熱口12を形成したので、上記に説明した従来技術のように、別部材からなる前記ガイド部材Bを設ける必要がなくなるとともに、前記ファンモータ6の発熱により温度上昇した空気流aが前記吸込口3から吸い込まれた吸込空気流と衝突しないようにして、送風効率が低下してしまうということがないようにした天井埋込型空気調和機となる。

【0025】

【発明の効果】以上のように本発明によると、ファンモータの発熱により温度上昇した空気を、吸込空気と衝突させることなく、排熱口からターボファンを経て熱交換器へ円滑に導けるようにした天井埋込型空気調和機となる。

【図面の簡単な説明】

【図1】本発明および従来例による天井埋込型空気調和機の断面図である。

【図2】本発明による天井埋込型空気調和機の説明図で（A）は一例を示す要部断面図であり、（B）は他の例を示す要部断面図である。

【図3】本発明による天井埋込型空気調和機のターボファンの図2（A）に対応する上面図である。

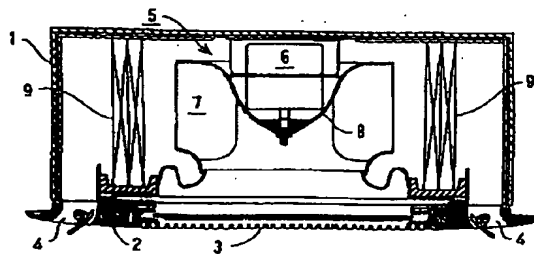
【図4】本発明による天井埋込型空気調和機のターボファンの図2（B）に対応する要部上面図である。

【図5】従来例による天井埋込型空気調和機の要部断面図で、（A）は一例を示し、（B）は他の例を示す。

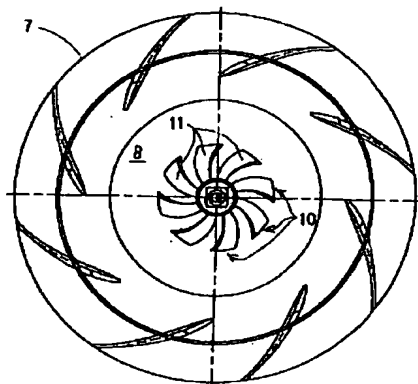
【符号の説明】

- 1 ケース本体
- 2 化粧パネル
- 3 吸込口
- 4 吹出口
- 5 送風機
- 6 ファンモータ
- 7 ターボファン
- 8 ターボファンの上面
- 9 熱交換器
- 10 排熱口
- 11 膨出部
- 11a 膨出部の先端
- 11b 膨出部の後部
- 12 補助排熱口
- 13 補助膨出部
- 13a 補助膨出部の前部
- 14 リブ

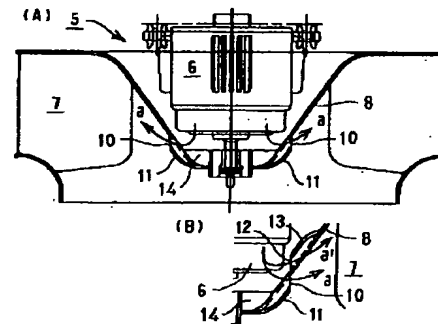
【図1】



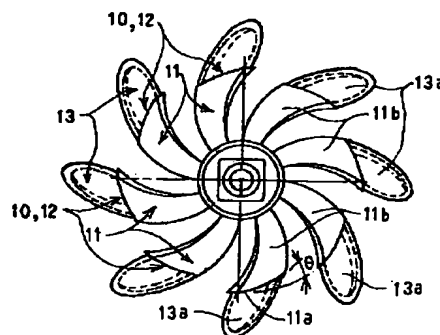
【図3】



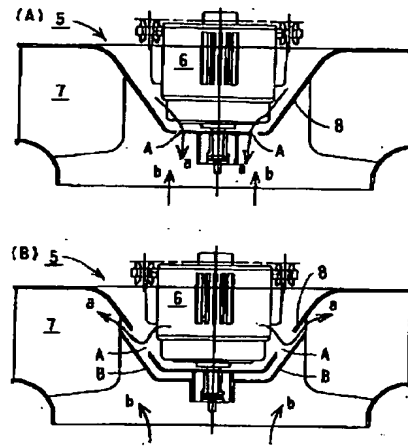
【図2】



【図4】



【図5】



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ページ (参考)